

REMARKS

Claims 7-38 were previously pending. Claim 38 has been cancelled by this Amendment. Upon entry of the Amendment, claims 7-37 will be pending.

Claim Rejections – 35 U.S.C. §102/103

Applicants respectfully traverse the rejection of claim 38 under 35 U.S.C. §102(b) as being anticipated by or, in the alternative, under 35 U.S.C. §103(a) as being obvious over Akira (JP 2003-238777). Claim 38 has been cancelled, rendering this rejection moot. Withdrawal of the rejection is respectfully requested.

Claim Rejections – 35 U.S.C. §103

I. Applicants respectfully traverse the rejections of claims 17-21 and 23-29 under 35 U.S.C. §103(a) as being obvious over Shiga et al. (US 2004/0010073; US 7,084,214).

Shiga fails to teach or suggest a modifier for a polyester resin is first prepared by reacting an amorphous polyester resin (I) with a reactive compound (II), wherein a portion of the two or more glycidyl groups and/or isocyanate groups of the reactive compound (II) is reacted with the amorphous polyester resin (I) as recited in claim 17, and then the modifier is mixed with a crystalline polyester resin (IV). As discussed below and shown in the attached Declaration under 37 C.F.R. §1.132, the polyester resin composition prepared by reacting first an amorphous polyester resin with a reactive compound to obtain a modifier and then mixing the modifier with a crystalline polyester resin achieved unexpected results over the polyester resin prepared by directly mixing the amorphous polyester resin, the reactive compound and the crystalline polyester resin together. Therefore, claims 17-21 and 23-29 would not have been obvious over Shiga. Withdrawal of the rejections is respectfully requested.

II. Applicants respectfully traverse the obviousness rejections of claims 7-11, 13-15, 25-29, and 31-33 over Avramova et al. (US 4,915,885) in view of Akira.

Present claims 7 and 25 recite two amorphous polyester resins: an amorphous polyester resin (I) and an amorphous polyester resin (III). In the invention of claims 7 and 25, the amorphous polyester resin (I) and the amorphous polyester resin (III) are not only mixed together, but they also have different effects. Specifically, the amorphous polyester resin (I) is a

component of the modifier and is first reacted with the reactive compound (II) to obtain a modifier wherein a portion of the two or more glycidyl groups and/or isocyanate groups of the reactive compound (II) is reacted with the amorphous polyester resin (I). On the other hand, the amorphous polyester resin (III) is a component that is modified by the modifier.

Avramova in view of Akiva fails to teach or suggest the relation or the difference in their effects between the amorphous polyester resin (I) and the amorphous polyester resin (III), as recited in present claims 7 and 25. Avramova in view of Akira does not teach or suggest a polyester resin composition wherein a portion of the two or more glycidyl groups and/or isocyanate groups of the reactive compound (II) is reacted with the amorphous polyester resin (I), as recited in claim 7, or a process comprising mixing a modifier with an amorphous polyester resin (III) and/or a crystalline polyester resin (IV) wherein the modifier comprises an amorphous polyester resin (I) and a reactive compound (II) and wherein a portion of the two or more glycidyl groups and/or isocyanate groups of the reactive compound (II) is reacted with the amorphous polyester resin (I), as recited in claim 25.

As the Office Action acknowledges (page 7, paragraph 18), Avramova does not teach a reactive compound (II) containing two or more glycidyl groups and/or isocyanate groups per molecule and having a weight average molecular weight of not less than 200 and not more than 500 thousands, as recited in present claims 7 and 25. Akira does not teach or suggest a composition comprising or a process using both a first amorphous compound (I) and a second amorphous compound (III), as recited in claims 7 and 25. *See, e.g.,* Examples 1-8 of Akira. Avramova in view of Akira fails to teach or suggest reacting a first amorphous polyester resin with a portion of two or more glycidyl groups and/or isocyanate groups of a reactive compound to obtain a modifier for polyester resin, and then mixing the modifier with a second polyester resin. Applicants note that according to its ordinary use, “a portion” does not include 100%.

The Office Action (page 15, paragraph 50) states that “selection of any order of mixing ingredients is *prima facie* obvious, as is selection of any order of performing process steps in the absence of new or unexpected results.” Applicants note that reacting a first amorphous polyester resin with a portion of two or more glycidyl groups and/or isocyanate groups of a reactive compound to obtain a modifier and thereafter mixing the modifier with a second amorphous polyester resin or a crystalline polyester resin, as recited in claims 7 and 25, achieves superior unexpected results such as inhibition of gelation, improved moldability, and improved

mechanical properties while maintaining transparency, compared with directly mixing the first amorphous polyester resin, the reactive compound, and the second amorphous polyester resin or the crystalline polyester resin. The unexpected results are described on page 5, lines 6-15 and page 14, line 24 to page 15, line 11 of the specification and supported by the Declaration under 37 C.F.R. §1.132 submitted herewith. In the experiment shown in the Declaration, Sample A and Example 1 were identical in composition, containing a first Amorphous Polyester Resin A, a Reactive Compound I, and a second Amorphous Polyester Resin B; Sample B and Example 14 were identical in composition, containing a first Amorphous Polyester Resin B; Reactive Compound J, and Polyethylene terephthalate (PET) as the Crystalline Polyester Resin; Sample C and Example 18 were identical in composition, containing a first Amorphous Polyester Resin E; Reactive Compound I; and Polybutylene naphthalate (PBN) (70% by weight) as the Crystalline Polyester Resin. *See* Declaration at page 2. As shown in Table 1 of the Declaration, unexpected results, including inhibition of gelation and improved molding properties, were achieved in Examples 1, 14, and 18 by first reacting the first Amorphous Polyester Resin with the Reactive Compound in order to react a portion of two or more glycidyl groups and/or isocyanate groups of the Reactive Compound with the first Amorphous Polyester Resin to prepare a modifier for a polyester resin and then melt molding the modifier and the second Amorphous Polyester Resin or the Crystalline Polyester Resin, compared with Samples A, B, and C prepared by directly dry-blending the first Amorphous Polyester Resin, the Reactive Compound, and the second Amorphous Polyester Resin or the Crystalline Polyester Resin to prepare a mixture thereof, without preparing a modifier for a polyester resin, and melt molding the mixture. Applicants note that inferior molding properties were observed if gelation occurred. Although Table 1 does not contain an item that indicates occurrence of gelation directly, the inferior molding properties as shown in Table 1 for Samples A, B, and C indicated that gelation occurred.

In sum, Avramova in view of Akira fails to teach or suggest reacting a portion of the two or more glycidyl groups and/or isocyanate groups of the reactive compound with a first amorphous polyester resin to obtain a modifier and thereafter mixing the modifier with a second amorphous polyester resin or a crystalline polyester resin, as recited in claims 7 and 25. Also, the claimed invention achieved superior unexpected results as shown in the attached Declaration. Therefore, the claimed invention would not have been obvious over Avramova in view of Akira. Withdrawal of the rejections is respectfully requested.

III. Applicants respectfully traverse the obviousness rejections of claims 12, 16, 30, and 34, over Avramova et al. (US 4,915,885) in view of Akira as applied to claims 7 and 25, further in view of Borman (US 3,953,404).

As discussed above, Avramova in view of Akira fails to disclose the polyester resin composition of claim 7 or the process for producing a molded article of claim 25, wherein a portion of the two or more glycidyl groups and/or isocyanate groups of the reactive compound (II) is reacted with the amorphous polyester resin (I) to obtain a modifier. This deficiency is not cured by Borman, which merely discloses a branched copolyester containing a polyfunctional branching component (col. 3, lines 25-28). Borman fails to teach or suggest a polyester resin composition or a process wherein an amorphous polyester resin is first reacted with a portion of the two or more glycidyl groups and/or isocyanate groups of the reactive compound to obtain a modifier. The claimed invention would not have obvious over the cited references. Withdrawal of the rejections is respectfully requested.

IV. Applicants respectfully traverse the obviousness rejection of claim 22 over Shiga as applied to claim 17, and further in view of Borman.

As discussed above, neither Shiga nor Borman teaches or suggests a polyester resin composition wherein an amorphous polyester resin is reacted with a portion of the two or more glycidyl groups and/or isocyanate groups of the reactive compound, as recited in claim 17. Claim 22 would not have been obvious over Shiga in view of Borman. Withdrawal of the rejection is respectfully requested.

CONCLUSION

The Examiner is encouraged to contact the undersigned regarding any questions concerning this amendment. In the event that the filing of this paper is deemed not timely, applicants petition for an appropriate extension of time. The Commissioner is authorized to debit Deposit Account No. 11-0600 the petition fee and any other fees that may be required in relation to this paper.

Respectfully submitted,
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Dated: October 26, 2010

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Enclosure: Declaration under 37 C.F.R. §1.132

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